Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of Part 15 of the Commission's Rules	)	
Regarding Spread Spectrum Devices	)	**ET Docket No. 99-231**
	)	
Further Notice of Proposed Rule Making	)	
Part 15 NPRM FCC 01-158	)	

COMMENTS OF INTEL CORPORATION

Intel Corporation ("Intel") endorses the proposals set out in the above-referenced Notice of Proposed Rule Making. Intel sells 802.11b WLAN PC-Cards, 802.11b WLAN Access Points, and Bluetooth WPAN PC-Cards that allow our customers unencumbered access to voice, data, and multimedia applications. Advances in wireless technology in the 2.4 GHz band will benefit Intel and its customers. Therefore, Intel strongly supports the Commission's initiative to facilitate increased innovation and competition in the ongoing development and use of broadband digital modulation and coexistence technologies in these frequencies. In particular, Intel supports the proposed changes to section 15.247, which pertain to intelligent adaptive frequency hopping, and the proposed change to the U-NII rules, which would expand the band to 5.850 GHz from 5.825 GHz. Finally, Intel recommends that U-NII rules not be applied to the 900 MHz and 2.4 GHz bands at this time.

Intelligent Adaptive Frequency Hopping

Increasingly, consumers want to use both Wireless LAN and Wireless PAN devices and their applications concurrently, and sometimes in close proximity. The bandwidth available in the 2.4 GHz ISM band is sufficient to meet these needs provided coexistence of these and other technologies is addressed.

Intel recognizes the potential for interference among the technologies occupying the 2.4 GHz band and supports the intelligent adaptive frequency hopping measures proposed in the new rules. These changes will give equipment designers and manufacturers additional latitude to mitigate the interference issues anticipated and observed in this band. The 2.4 GHz band contains ample bandwidth to support multiple technologies operating simultaneously. The proposed rules would promote coexistence and alleviate customer concerns about possible interference. A judicious and intelligent reduction in the number of hop frequencies can maintain sufficient processing gain to mitigate channel effects and interference at the same time that it lowers interference to other radio receivers in the 2.4 GHz band.

Furthermore, Intel believes that the Federal Communications Commission ("FCC") should grant requests for interim waivers of the existing rules during the pendancy of this rulemaking. The Commission adopted this approach with regard to the proposed digital modulation rule changes. Such waivers would encourage Bluetooth developers to proceed with intelligent adaptive frequency hopping solutions and potentially speed their introduction to the market.

Alignment of Section 15.247 and U-NII 5 GHz Bands

Regarding the proposed alignment between section 15.247 rules and U-NII rules,[1] Intel recommends that references to the 5.725 - 5.850 GHz band be deleted from section 15.247 and the upper U-NII band be expanded from 5.725 - 5.825 GHz to 5.725 - 5.850 GHz. These changes would allow continuation of the rules for the 900 MHz and 2.4 GHz ISM bands, which are widely used and eliminate any confusion from the overlap of the ISM and U-NII rules at 5.725 - 5.825 GHz. Leaving the U-NII rules unchanged (except for the minor bandwidth expansion recommended above) would minimize the impact on industry and allow the ISM rule changes to proceed in the areas where they can enhance co-existence between technologies and contribute to a more efficient utilization of the 2.4 GHz band.

Application of the U-NII Rules to the 2.4 GHz and 900 MHz Bands

Finally, Intel recommends against the application of the U-NII rules to the 2.4GHz ISM band or to the 900 MHz band.[2] Intel believes that applying the U-NII rules to these frequencies would create difficulties in reconciling the different limitations in power spectral density. The power spectral density limitation in the 2.4 GHz ISM band of 8dBm/3kHz translates to 33dBm/1MHz. This limit is significantly higher than the 4, 11, and 17dbm/MHz limits in the three respective U-NII bands. Since the introduction of this change may disrupt the use of existing or planned equipment in the ISM band, it is important to maintain the existing rules in the 900MHz and 2.4 GHz bands.

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[1] *In the Matter of Amendment of Part 15 of the Commission's Rules Regarding Spread Spectrum Devices*¸ ET Docket No. 99-231, Notice of Proposed Rulemaking (rel. May 11, 2001) ("NPRM") Paragraph 18.

Summary

Intel believes that the proposed rule changes would permit enhanced coexistence design flexibility that will better enable multiple technologies to the use the 2.4 GHz band. Intel recommends that the FCC grant requests for interim waivers to encourage the timely development of coexistence methods using intelligent adaptive frequency hopping techniques. Also, Intel supports expansion of the U-NII band from current 5.825 GHz limit to 5.850 GHz and deletion of 5 GHz rules in section 15.247 to clarify regulation of this band. Finally, Intel does not recommend application of the U-NII rules to the 2.4 GHz and 900 MHz ISM bands, because this would cause difficulties reconciling the different limitations in power spectral density and may be disruptive to existing and planned users of the band.

Based upon these reasons, Intel urges quick adoption of the Commission's proposal in this proceeding.

Respectfully submitted,

INTEL CORPORATION

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[2] *Ibid.,*